

REMARKS

Claims 23-28 are pending in the above-identified application. Claims 23-28 were rejected. Claims 1-9 were cancelled, claim 23 was amended and claim 35 was added. Accordingly, claims 23-28 are at issue in the above-identified application.

35 U.S.C. § 102 Anticipation Rejection of Claims and 35 U.S.C. § 103 Obviousness

Rejection of Claims

Claims 23-25 were rejected under 35 U.S.C. § 102(e) as being anticipated by *Isoyama et al.* (U.S. Patent No. 6,093,503). Claims 26-28 were rejected under 35 U.S.C. 103(a) as being unpatentable over *Isoyama et al.* in view of *Miyasaka* (U.S. Patent No. 5,869,208). Applicants respectfully traverse these rejections.

Claim 23 recites a method of producing a positive electrode active material for a non-aqueous electrolyte cell, comprising the sequential steps of (1) mixing a first ingredient with a lithium composite manganese oxide, (2) molding *the mixture* under pressure, and (3) sintering the mixture at a temperature *not lower than 600°C and not higher than 850°C*, wherein the positive electrode active material comprises lithium composite manganese oxide having a spinel structure whose primary particle diameter is *not less than 0.05 μm and not greater than 10 μm*, forms an aggregate, and whose specific surface area measured by the BET method is not less than 0.2 m²/g and not greater than 2 m²/g, and wherein the lithium composite manganese active material is expressed by a general formula $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$, wherein $.09 \leq x \leq 1.4$; $0 < y < .3$; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al.

In contrast, *Isoyama et al.* teaches using a different sequence of steps and thus, arrives at a different result. The Examiner continues to fail to recognize this distinction. *Isoyama et al.*

teaches a non-aqueous electrolyte lithium secondary cell having a positive active material which comprises a metallic compound powder capable of occluding or releasing lithium. As described in *Isoyama et al.*, it is proposed to use LiMn_2O_4 as a positive active material for a positive electrode which comprises a collector core. (See *Isoyama et al.*, column 11, lines 65-67). In order to produce the LiMn_2O_4 , a mixture of lithium salt powder and manganese oxide powder needs to be *sintered*. (See *Isoyama et al.*, column 11, lines 67 through column 12, line 3). *Upon sintering* the mixture of lithium salt powder and manganese oxide powder, LiMn_2O_4 is produced. The positive active material is then generally produced by mixing the *previously sintered* LiMn_2O_4 with a conductive agent in a binder and *then subjecting* that mixture to press molding on a collector core. This is contrary to Applicant's claimed invention wherein a mixture of lithium composite manganese oxide is molded under pressure and then sintered. Since the mixture is not subjected to molding under pressure *before* the sintering of that mixture, the specific surface area measured by the BET method does not inherently result in particles whose specific service area measured by the BET method which are not less than $0.2 \text{ m}^2/\text{g}$ and not greater than $2 \text{ m}^2/\text{g}$.

The Examiner states that the limitation in claim 23, with respect to the specific service area measured by BET, is considered to be an inherent property of the cathode material as set forth in the prior art. However, Applicants disagree with this assertion. The specific surface area does not depend only on the primary particle size, but also on the other factors such as how the mixture is prepared. The BET, which is specified in claim 23, is not an inherent property of the cathode material since the preparation of the present invention is different from that of the prior art, even though the starting material may be similar. The addition of *pressure* to a mixture

before sintering is not taught in the prior art. *Isoyama et al.* teaches subjecting a mixture to press molding on a collector core, but not before sintering the mixture.

Finally, *Isoyama et al.* does not teach a positive electrode active material comprising lithium composite manganese oxide, wherein the lithium composite manganese active material is expressed by a general formula $\text{Li}_x\text{Mn}_{2-y}\text{M}_y\text{O}_4$, wherein $.09 \leq x \leq 1.4$; $0 < y < .3$; and M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al. Specifically, *Isoyama et al.* fails to teach a lithium composite manganese active material expressed by the above-stated formula wherein M is one or more materials selected from the group consisting of Ti, V, Cr, Fe, Co, Ni, and Al. Accordingly, Applicants submit that the claimed invention is not anticipated by nor obvious over the applied references either alone or in combination.

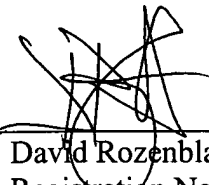
Withdrawal of these grounds of rejection is respectfully requested.

In view of the foregoing, Applicant submits that the application is in condition for allowance. Notice to that effect is requested.

Respectfully submitted,

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